



---

**EFCOG / DOE**

**Electrical Safety  
Improvement Project**

**Approved by:**

**Tony Umek, Fluor Hanford, Project Manager** \_\_\_\_\_ *[original signed by Tony Umek]*

**Frank Russo, DOE HQ/NNSA** \_\_\_\_\_ *[original signed by Frank Russo]*

**Chip Lagdon, DOE HQ/ESE** \_\_\_\_\_ *[original signed by Chip Lagdon]*

**Frank Tooper, DOE HQ/EH** \_\_\_\_\_ *[original signed by Frank Tooper]*

**Joe Yanek, WSRC, Chair, EFCOG ISM WG** \_\_\_\_\_ *[original signed by Joe Yanek]*



# **ENERGY FACILITY CONTRACTORS GROUP / DOE HQ ELECTRICAL SAFETY IMPROVEMENT PROJECT**

## **1.0 INTRODUCTION**

This project was developed in response to the Department of Energy's challenge to improve electrical safety performance as directed by Energy Secretary Samuel Bodman and further reinforced by the Department's senior NNSA and Environmental, Science and Energy (ESE) leadership. It also reflects a significant commitment by DOE's contractors through the Energy Facility Contractors Group (EFCOG) to take an active role in improving electrical safety.

This project plan was developed jointly with Department of Energy (DOE) personnel to provide an over-arching strategy for achieving continuous improvement in electrical safety within the DOE complex. The Project Plan documents a formal approach for managing the scope of the EFCOG/DOE HQ Electrical Safety Improvement Project. The plan builds on the successful electrical safety programs already in place at various DOE Sites and will be updated as needed to reflect ongoing progress.

## **2.0 SCOPE**

The scope of this Project Plan is to integrate current DOE and Contractor electrical safety initiatives under the EFCOG umbrella in order to foster consistency in achieving continuous improvement in electrical safety. The Plan's scope includes the seven (7) Project Areas (Attachment 1) identified during the July 2005 Electrical Safety Workshop and at the first EFCOG ISM Working Group Electrical Safety Project Team meeting held in Albuquerque, New Mexico, on October 31 and November 1, 2005. Any additional Project Areas, sub-project areas or related initiatives may also be added to the scope of this Plan upon approval by the Electrical Safety Project Manager and the designated Senior DOE NNSA, EH, and ESE project representatives.

## **3.0 PROJECT ORGANIZATION**

Mr. Tony Umek of Fluor Hanford (FH) will lead the overall EFCOG effort to consolidate the seven Project Areas. DOE leadership for the Project Team will be comprised of Frank Russo representing the National Nuclear Security Administration (NNSA), Frank Tooper representing the Environment, Safety and Health (EH) organization, and Chip Lagdon representing the Environment, Science and Energy (ESE) organization. Joe Yanek, Chair, EFCOG's ISM Working Group, will serve as the senior EFCOG representative to the Project Team.

Each Project Area will have designated DOE and EFCOG Leadership. These individuals are expected to interface and coordinate completion of the project area milestones and ensure acceptance across the DOE complex. EFCOG Leads will define and implement the

strategy for accomplishing the project area milestones. As this Project Plan is carried forward, EFCOG representatives will work in partnership with DOE personnel to maintain alignment with DOE's performance objectives regarding electrical safety.

An Advisory Committee comprised of key technical staff, subject matter experts, and skilled workers from the DOE Complex will provide a spectrum of technical, work planning, and execution insights to assist Project Area Leads to achieve effective implementation of this project plan. Figure 1 identifies the Project organization. Specific Project Area Leads and key participants are identified within each Electrical Safety Project Area.

#### **4.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES**

The EFCOG Project Manager is responsible to:

- Lead the overall Project Coordination effort and maintain the Project Plan and associated schedules.
- Work with EFCOG's ISM Working Group Chair and the senior DOE Project Representatives to identify Project Area Leads, Participants, and Advisory Committee Members.
- Regularly monitor Project Area milestone completion progress and provide guidance and direction to Project Area Leads as needed.
- On a quarterly basis, report Project progress to the EFCOG Board of Directors, ISM Working Group Chair, and senior DOE management.

The Project Area Leads are responsible to:

- Identify and obtain EFCOG/DOE participants to support completion of project area milestones.
- Lead efforts to successfully complete assigned milestones.
- Coordinate project area activities with the designated DOE Lead.
- Define project area completion approach and coordinate activities of project area teams.
- Participate in Electrical Safety Improvement Project status meetings and teleconferences.
- On a monthly basis, report progress to the overall Project Manager.

The Senior Project Advisory Committee is responsible to:

- Provide advice and counsel to the Electrical Safety Improvement Project Manager and Project Area Leads on activities and milestone deliverables associated with the project. Initial membership in the committee will include Cliff Ashley, DOE-RL; Bobby Gray, FH; Bryan Drennan, SNL; and Bobby Sparks, PNNL

Additional experts will be added to the Advisory Committee as necessary to ensure success of the project.

## **5.0 PROJECT EXECUTION AND PERFORMANCE MANAGEMENT**

The electrical safety performance improvement initiative will be executed using project management techniques. All key decisions will be coordinated among the core Project Team leadership, and periodic project reviews will be held between the project leadership, project area leads, and senior DOE and EFCOG management.

Formal project reviews/status reporting will be held with the EFCOG Board of Directors and senior DOE leadership on a quarterly basis during the duration of the project.

Management of specific project milestones, task activity scheduling, and task completions is the direct responsibility of the Project Area Leads. In order to declare a Milestone complete, the Lead must issue the necessary supporting documentation to the overall Project Manager for acceptance.

Any changes to a designated Project Area Scope, Milestone, or overall Target Completion Date must be approved by the Project Manager. The Project Manager will review all such changes with the designated senior DOE Project Representatives.

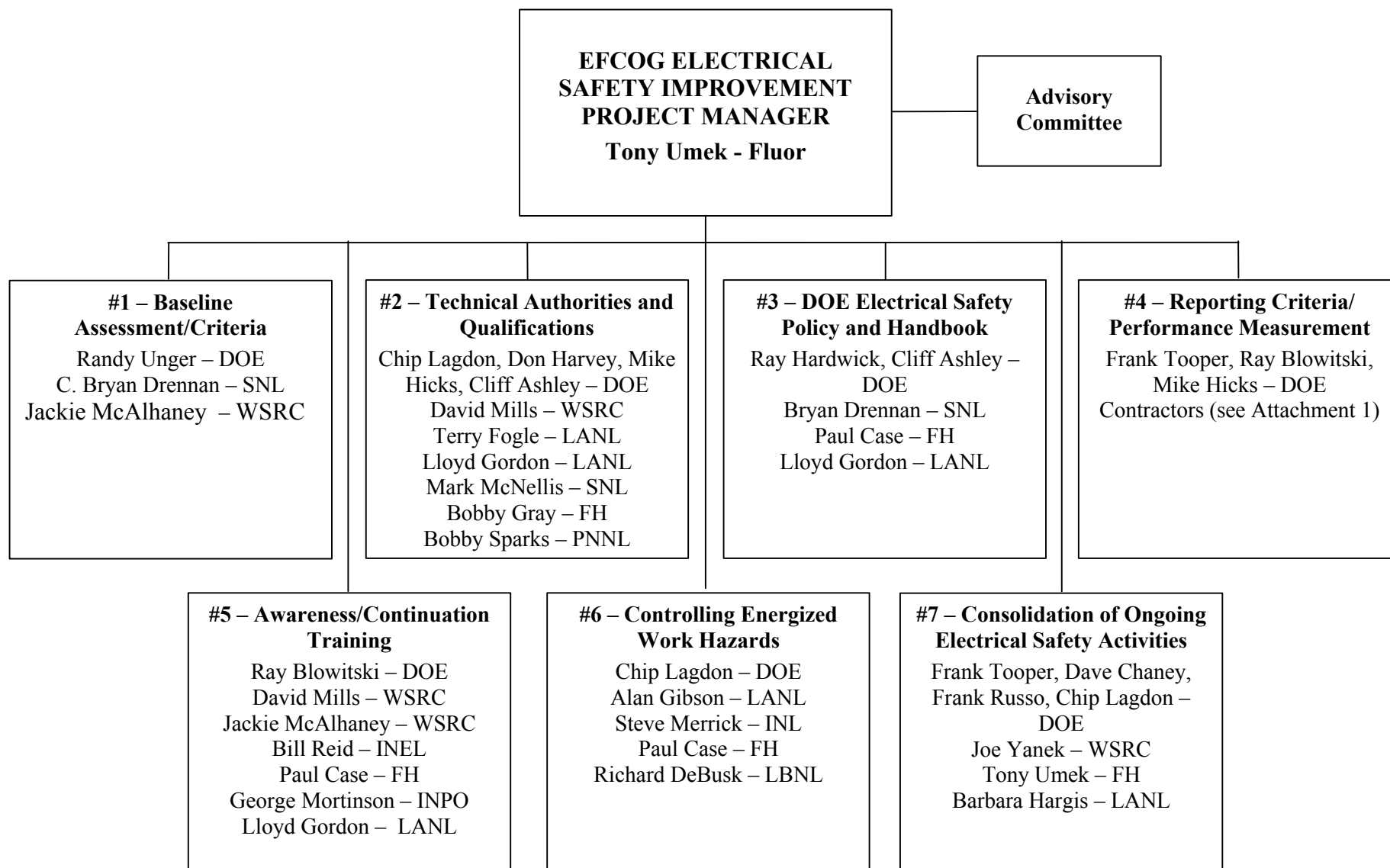
## **6.0 COMMUNICATIONS**

The Project Manager will conduct monthly teleconferences to status project area progress. Semi-annual meetings of the entire Electrical Safety Improvement Project Team and participants will be conducted in conjunction with the EFCOG ISM Working Group's semi-annual meetings. Additional conference calls or meetings will be scheduled if needed. Email and video-conferencing will be used, to the maximum extent possible, to communicate status among Project Area teams and the overall Project Manager. Individual Project Area teams will determine the communication needs and methods for their teams.

## **7.0 PROJECT TERMINATION**

The Electrical Safety Improvement Project will be maintained in an active state until such time as responsibility is shifted, by the EFCOG Board of Directors, from the Project Team to the EFCOG ISM Working Group for on-going leadership of Contractor electrical safety activities.

**Figure 1. Electrical Safety Improvement Project Organization**



## **Attachment 1**

### **ELECTRICAL SAFETY PROJECT AREAS**

#### **Project Area 1 – Baseline Assessment/Criteria**

**Target Completion Date: 7/06**

##### Scope

Develop a Standardized Criteria and Review Approach Document (CRAD) for electrical safety to support the accomplishments of baseline assessments within DOE and contractor operations. Assessment areas to include: Operations, Construction, R&D, and NFPA 70E implementation as a special topical area.

##### Preliminary Project Milestones

- 3/06 – Complete draft CRADS.
- 4/06 – Issue draft CRADS for review and comment.
- 6/06 – Issue CRADS to DOE/Contractors for use.
- 6/06 – Provide recommendation for performance of baseline assessments to DOE HQ.  
(Consistent with outcomes of DOE SOR on Electrical Safety.)
- 7/06 – DOE HQ provide direction for performance of baseline assessments during CY 06.

DOE Lead(s): Randy Unger, NNSA

EFCOG Lead(s): C. Bryan Drennan, SNL  
Jackie McAlhaney, WSRC

#### **Project Area 2 – Technical Authorities and Qualifications**

**Target Completion Date: 12/06**

##### Scope

Establish electrical safety authorities at federal and contractor levels. Develop standardized set of qualification requirements for consistency throughout the DOE complex.

##### Preliminary Project Milestones (Two Parts):

###### Part 1 – Federal Personnel

- 2/06 – Engage the DOE Federal Technical Capabilities Panel (FTCP) in developing the Electrical Safety Competencies within the electrical system's Functional Area Qualification Standard (FAQS).

- 3/06 – Work jointly with FTCP to identify a sponsor for the electrical safety competency development activity.
- 4/06 – DOE Sponsor establishes Electrical Safety Technical Advisory Committee (to support FTCP), completes review of ES functions at HQ and field, and completes gap analysis of current qualification requirements and approaches.
- 9/06 – DOE sponsor recommends path forward for qualification requirements for HQ and field; i.e., new qualification standard or inclusion in existing standard.
- 12/06 – DOE Sponsor provides formal recommendation for DOE Electrical Safety personnel to Senior DOE-EH, ESE, and NNSA management.

## Part 2 – Contractor Personnel

- 5/06 – Survey contractors to determine current requirements for Contractor “Authorities Having Jurisdiction (AHJs)” and compare to National Consensus Standards.
- 11/06 – Complete evaluation of DOE path forward from Part 1 above.
- 12/06 – Issue recommended minimum qualification requirements for Contractor “AHJs.” Recommendation to be distributed by EFCOG.

DOE Lead(s): Chip Lagdon, EH-ESE Don Harvey, NNSA Mike Hicks, DOE-ID Cliff Ashley, DOE-RL	EFCOG Lead(s): David Mills, WSRC Terry Fogle, LANL Lloyd Gordon, LANL Mark McNellis, SNL Bobby Gray, FH Bobby Sparks, PNNL
--	---

## **Project Area 3 – DOE Electrical Safety Policy and Handbook**

**Target Completion Date: 12/06**

### Scope

Updating of the DOE Electrical Safety Handbook to include seven different areas: R&D, NFPA 70E implementation, personnel protective equipment, locator methodologies, use of non-UL listed equipment, and subcontractor management and reporting criteria.

### Preliminary Project Milestones

- 1/06 – Finalize DOE and contractor leads for each of the seven areas.
- 2/06 – Initiate reviews and gap analysis in each of the seven areas.
- 6/06 – Complete development of recommended Handbook changes.
- 7/06 – Issue recommended changes for preliminary review as a consolidated package.
- 9/06 – Provide Handbook changes in the DOE REVCOM process.
- 12/06 – Issue revision to Electrical Safety Handbook.

Additional “Sub-project Areas” may be identified for Handbook to ensure the appropriate focus has been placed on electrical activities associated with R&D; NFPA 70E Implementation/PPE Applications; Locator Methodology; Use of Non-UL Listed (NRTL) Equipment; and Subcontractor Management.

DOE Lead(s): Ray Hardwick, EH-2  
Cliff Ashley, DOE-RL

EFCOG Leads(s): Bryan Drennan, SNL  
Paul Case, FH  
Lloyd Gordon, LANL

#### **Project Area 4 – Reporting Criteria/Performance Measurement**

**Target Completion Date: 9/06**

##### Scope

Establish a standardized approach for tracking and trending electrical safety incidents across the DOE complex, and revalidate the validity of current DOE Occurrence Reporting Criteria for Electrical-related Hazardous Energy Control events.

##### Preliminary Project Milestones

5/06 – Develop “significance/severity” based approach for trending of electrical safety incidents.

7/06 – Evaluate current DOE Occurrence Reporting System criteria for adequacy in identification of electrical safety incidents (to include significance categorization).  
Provide recommendation to DOE-EH for consideration.

9/06 – Issue recommendations to DOE and contractors for implementation.

DOE Lead(s): Frank Tooper, EH-3  
Ray Blowitski, EH-32  
Mike Hicks, DOE-ID

EFCOG Leads(s): Steve Prevette, FH  
Steve Thorne, INL  
Perry D’Antonio, SNL  
Jackie McAlhaney, WSRC  
David Mills, WSRC  
Terry Fogle, LANL  
Lloyd Gordon, LANL

#### **Project Area 5 – Awareness/Continuation Training (7/06)**

**Target Completion Date: 9/06**

##### Scope

Provide recommendation for a standardized approach for initial Electrical Safety Awareness and continuation training for non-electrical workers.



### Preliminary Project Milestones

- 3/06 – Develop recommended approach for non-electrical workers (to include an evaluation of SRS/WSRC general training for non-electrical workers).
- 6/06 – Complete review of other industries approaches to initial and continuing electrical safety training (nuclear, fossil, transmission and distribution, etc.).
- 7/06 – Develop and issue training materials and summary of good practices from reviews activity through new DOE Operating Experience Review Program.
- 9/06 – Issue implementation recommendations for above to DOE and contractors.

DOE Lead(s): Ray Blowitski, EH-32

EFCOG Leads(s): David Mills, WSRC  
Jackie McAlhaney, WSRC  
Bill Reid, INEL  
Paul Case, FH  
George Mortinson, INPO  
Lloyd Gordon, LANL

### **Project Area 6 – Controlling Energized Work Hazards**

**Target Completion Date: 9/06**

#### Scope

Minimize or eliminate energized electrical work (to the extent practical) to prevent injury and ensure worker safety.

### Preliminary Project Milestones

- 5/06 – Develop “Best Practices” for analyzing potential energized work situations to facilitate minimization of energized electrical work. (Associated permit process for energized work to contain: compelling reason, system and specific work activity, strict authorization process, and training; as well as Annex J70E form, Permitting Process, and Annex F, Hazard/Risk Evaluation Procedure.)
- 6/06 – Submit recommendations to DOE for implementation. In the event energized electrical work is necessary, recommend improvements to enhance worker protection.
- 9/06 – Submit approved “Best Practices” to EFCOG for posting on the organization’s Best Practice website.

DOE Lead(s): Chip Lagdon, HQ-ESE

EFCOG Lead(s): Alan Gibson, LANL  
Steve Merrick, INL  
Paul Case, FH  
Richard DeBusk, LBNL

**Project Area 7 - Consolidation of On-going Electrical Safety Activities**  
**Target Completion Date: 12/06**

Scope

This area of the project is to integrate current DOE and Contractor electrical safety activities under a single EFCOG umbrella in order to foster consistency in achieving continuous improvement in electrical safety. Included are all current DOE “Sponsored” and “Ad Hoc” electrical safety groups involving the participation of DOE and/or contractor employees or the direct expenditure of DOE funding for electrical safety activities.

Preliminary Project Milestones

- 6/06 – Develop approach for consolidation within EFCOG’s ISM Working Group.
- 7/06 – Identify interim contractor leadership for the Task Group to include designated DOE Points of Contact.
- 10/06 – Hold first Task Group meeting concurrent with ISM Working Group’s Spring ’06 meetings.
- 12/06 – Host FY07 Annual Electrical Safety meeting.

DOE Lead(s): Frank Tooper, EH-3  
Dave Chaney, NNSA  
Frank Russo, NNSA  
Chip Lagdon, ESE

EFCOG Leads(s): Joe Yanek, WSRC  
Tony Umek, FH  
Barbara Hargis, LANL